

REMARKS

Claims 106-139 are pending in this Application, with Claims 106 and 122 being independent. In this Amendment, Claims 35, 37-76, and 104-105 were cancelled without prejudice to or disclaimer of the subject matter contained therein, and Claims 106-139 have been newly added to correspond with the subject matter of Claims 1-34 as originally filed. All amendments presented herein are made for clarity with respect to the specification and drawings, and not for reasons relating to the statutory requirements for patentability.

Rejections Under 35 U.S.C. § 103

Claims 35, 37-38, 40-41, 44-45, 47-49, 51-54, 63-67 and 104 were rejected under 35 U.S.C. 103(a) as allegedly unpatentable over U.S. Patent No. 3,645,696 to Iannacone et al., in view of U.S. Patent No. 5,332,548 to Moore, and U.S. Public Health Service Publication to Hauser.

Claim 39 was rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Iannacone et al., in view of Moore and Hauser, and further in view of U.S. Patent No. 3,649,159 to Cohen et al.

Claims 43, 46, and 50 were rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Iannacone et al., in view of Moore and Hauser, and further in view of EP 0 885 914 A2 to Meier et al.

Claims 55-61 were rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Iannacone et al., in view of Moore and Hauser, and further in view of U.S. Patent No. 3,932,126 to Jilla.

Claims 68-74, 76, and 105 were rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Iannacone et al., in view of Moore and Hauser, and further in view of U.S. Patent No. 4,622,207 to Wang.

Claim 75 was rejected under 35 U.S.C. 103(a) as allegedly unpatentable over Iannacone et al., in view of Moore, Hauser, and Wang, and further in view of U.S. Patent No. 4,946,705 to Manning et al.

Applicants respectfully traverse all art rejections.

Applicants' Claimed Invention

The presently claimed invention relates to a method for measuring acetaldehyde present in a polymer. The method includes the steps of extracting gaseous acetaldehyde from a polymer into a confined space; reacting the gaseous acetaldehyde with an acetaldehyde-reactive reagent on an inert reagent carrier in the confined space; contacting the reacted acetaldehyde-reactive reagent with a reagent solution to obtain a detectable response; and measuring the response to obtain an acetaldehyde reading.

In another embodiment, the claimed invention relates to a method for measuring acetaldehyde present in a polyester polymer. The method includes the steps of extracting gaseous acetaldehyde from a polymer into a confined space; reacting the gaseous acetaldehyde with an MBTH reagent disposed on an indicator in the confined space; contacting the reacted MBTH reagent with an oxidizer solution to obtain a color response; and measuring the color response to obtain an acetaldehyde reading.

The Applied Art

Iannacone et al. discloses a reactive powder, such as MBTH coated anhydrous aluminum, for testing for the presence of ethylene glycol in crankcase oil. The crankcase oil is reacted with an oxidizer, such as sodium periodate, and an aqueous phase containing any formaldehyde produced by the resulting oxidation of ethylene glycol is separated from the oil. The MBTH coated anhydrous aluminum causes a color change of the aqueous solution if formaldehyde is present in the aqueous solution, thereby indicating that the crankcase oil is contaminated with ethylene glycol.

Moore discloses an aldehyde test strip having a reagent provided on an alumina carrier, and optionally applied to a support. However, use of MBTH as a reagent is not disclosed, and Moore teaches away from the aspect of Applicants' claimed invention in which a developing solution is provided for quantifying the amount of acetaldehyde reacted with the reagent coated carrier. Moore requires that no "exogenous reagent or substance" be used to prepare for or conduct the analysis. (See col. 4, lines 56-68.)

Hauser discloses a method for determining the total amount of water-soluble aliphatic aldehydes in ambient air. The method uses a 0.05% aqueous MBTH solution to collect the aldehydes in the air, and an iron chloride-sulfamic acid solution as a developing agent. In order to conduct the analysis, air is collected over a 24 hour period at a rate of 0.5 L/min.

Wang primarily discloses a method of creating "independent reagent matrix zones" in a hydrophobic open-celled natural or synthetic material to avoid

runover. (See Abstract.) Wang also discloses use of a matrix material affixed to an insoluble support member by double-sided tape.

Even taken in combination, and Applicants do not concede that these patents may be properly combined, Iannacone et al., Moore, and Hauser fail to disclose or suggest a method for measuring acetaldehyde emitted by a polymer into the air, as set forth in independent Claims 106 and 122. Iannacone et al. shows the use of MBTH to detect the presence of aldehyde in an aqueous solution, but does not disclose or suggest at least the steps of testing for acetaldehyde emitted into a confined airspace by a polymer, or contacting the reacted acetaldehyde-reactive reagent with a reagent solution to obtain a detectable response. Hauser is cited to show testing of aldehydes in air, but requires that huge volumes of air (an example is 0.5L/min over 24 hours) be bubbled through an aqueous solution of the reagent. Iannacone and Hauser therefore still fail to show at least the steps of testing for acetaldehyde emitted into a confined airspace by a polymer, or contacting the reacted acetaldehyde-reactive reagent with a reagent solution to obtain a detectable response. Moore does not relate to testing for aldehyde using any particular reagent, and detects analytes emitted from solid materials by providing a strip to be placed directly against the material, the strip having a substrate, an analyte-reactive component, and an indicator. There is no disclosure of testing in a confined airspace, and no exogenous reagents are used. Therefore, the combination of Iannacone, Hauser and Moore still fails to disclose or suggest at least the steps of testing for acetaldehyde emitted into a confined airspace by a polymer, or contacting the reacted acetaldehyde-reactive reagent with a reagent solution to obtain a detectable response.

For these reasons, Applicants submit that independent Claims 106 and 122 are patentable over the cited patents, and that the dependent Claims are also patentable for the same reasons.

Applicants submit that none of the other cited patents, Cohen et al., Meier et al., Jilla, and Manning et al., which were cited with respect to various dependent claims, remedies the above-noted deficiencies of Iannacone et al., Moore, Hauser and/or Wang, as discussed above. Accordingly, Applicants submit that this application is in condition for allowance.

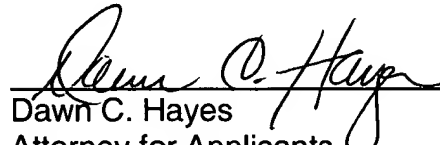
Conclusion

Applicants believe that this application would benefit from a personal interview with the Examiner. Applicants' undersigned representative will contact the Examiner to schedule such an interview.

Applicants submit that, in view of the amendments and arguments set forth above, this application is in condition for allowance, and respectfully request prompt issuance of a notice thereof.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3500. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Dawn C. Hayes", is written over a horizontal line.

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